



WALKING BACK AND FORTH

Start at

Go forward

steps

Go back

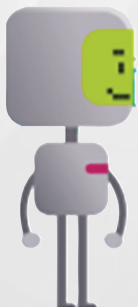
steps

Go forward

steps

Go back

steps

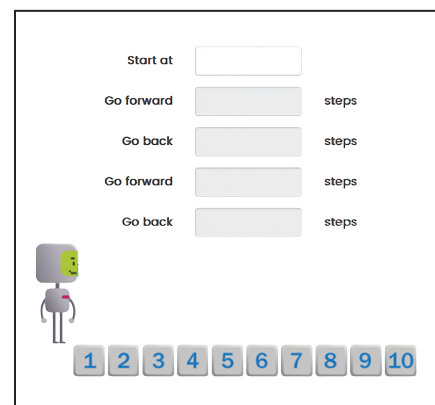


Walking Back and Forth

What's the point of this task?

Engaging in this task provides students with an opportunity to practice the counting sequence, observe the effect of moving forward and backward on a number line and explore, informally, the inverse relationship between addition and subtraction.

Although some students may assume you must go backward as many steps as you go forward each time to get back to the start number, they will come to realise that it is simply the total forward and the total backward that must match.



Questions to facilitate the learning

- If you went forward 2, back 2, forward 3 and back 3, would you land where you started? Why or why not?
- If you went forward 2, back 3, forward 3 and back 2, would you land where you started? Why or why not?
- If you started at 4, could you go forward 2, back 3, forward 4 and back 4 and land where you started? Why or why not?
- If you had started at a different number, could you have still taken the same number of steps?
- Could you pick any three numbers to start with and then choose the fourth one so that you land where you need to?

Scaffolding the learning

- You are standing on [5]. Where would you be if you went forward 1 step? Why is that easy to predict?
- Suppose you go forward 2 and want to get back to where you were. What could you do?
- Suppose you go forward 2 and then back 1. Will you be where you started? Will you be ahead? Will you be behind?

Extending the learning

Students might take an extra group of steps forward only or an extra group of steps forward and an extra group of steps back or they might be restricted from ever using the same number of steps in the four movements.

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Rubric

Level 1	Level 2	Level 3	Level 4
The student cannot determine any solutions, but does realise that going forward increases a number and going back decreases it.	<p>The student stumbles onto at least one correct answer.</p> <p>The student does not realise that starting at a different spot has no effect on the correctness of the answer.</p>	<p>The student reasons out one or two solutions by realising that moving forward the same amount as moving back each time works.</p> <p>The student does not realise that starting at a different spot has no effect on the correctness of the answer.</p>	<p>The student reasons out one or two solutions by realising that moving forward in total the same amount as moving back in total works.</p> <p>The student realises that starting at a different spot has no effect on the correctness of the answer.</p>

Walking Back and Forth

Choose a spot on the number line.

Decide how many steps to move each time:

Go forward _____ steps.

Then back _____ steps.

Then forward _____ steps.

Then back _____ steps.

You have to land where you started.

Show your trip on the line.

Each time, did your number get bigger or smaller?



Name _____